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Resilience profiles associated with social support and engagement for overcoming academic obstacles in undergraduate education

[1]Ailed Daniela Marenco-Escuderos[1] Dayana Restrepo Cervantes[2] and Laura Isabel Rambal-Rivaldo[3]

[1, 2] North University
[3] Reformed University Corporation

Abstract

The main objective of this work was to explore the configuration of those elements that allow students to better adapt to university environments and persist even in the presence of difficulties. The sample consisted of 371 undergraduate students (60% female), of low socioeconomic level, enrolled in public universities in the Caribbean region of Colombia. The methodological approach was based on a cluster analysis, in which, using the hierarchical agglomerative method, groups were extracted according to their similar characteristics of resilience in 12 dimensions assessed by the SV-RES scale and subsequent analyses of variance reported how each style was associated with engagement, and with a particular constitution of personal support networks, assessed respectively with the UWES-S scale, and from a square matrix of reticular data on the social networks of each participant. The results showed four profiles of students, characterized by: a) low resilience, high engagement, and strong support networks; b) resilience with low engagement, and dispersed support networks; c) resilience with high autonomy, intermediate levels of engagement, and weak support networks; and d) resilience, high engagement, and strong social support networks.

Keywords: *resilience, social support, engagement, cluster analysis, undergraduate students.*

1. Introduction

College students around the world, regardless of their career of choice, face common academic stressors that include demanding class schedules, learning complex content, and constant performance evaluation. Other changes in personal conditions, such as distancing from childhood friends, and the loss of the family support that comes with moving away from home are, in general terms, overwhelming experiences associated with burnout, anxiety, and isolation. Such experiences are highly detrimental to mental

[1] Ph.D. student in Psychology, Barranquilla (Colombia), ailedm@uninorte.edu.co. This article was presented at WMSCI2021 in July 2021.
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health and take a toll in academic performance (Taylor et al., 2014; Schofield et al., 2016).

Given the multimodal nature of the experiences that higher education entails, an interdisciplinary approach is required to investigate how young students enter and succeed in a college context. Adjustment to new and demanding living conditions is not exclusively related to academic aptitude; instead, this adjustment is associated to psychological characteristics, personal and even social resources that help students cope with stressors and new circumstances (Suárez-Colorado & Restrepo, 2019). The influence of social elements over academic performance is particularly relevant in certain groups, such as students beginning their college studies, or students from vulnerable populations. It is necessary to address these influencing elements to close gaps in performance (Murphy, 2020).

It has been determined that a comprehensive assessment of the students' adjustment that transcends the institutional preoccupation on instruction, and instead commits to a real educational transformation should entail associations among personal resilience, academic engagement, and social support networks (Fernández-Martínez et al., 2017). Resilience refers to the ability of students to overcome adversities; it involves a position of openness to the conditions that life proposes, perseverance in the face of difficulties, willingness to establish bonds, and a personal sense of autonomy and self-efficacy to solve problems (Allan et al., 2014). Engagement, on the other hand, refers to a positive affective state that facilitates focusing energy on accomplishing academic goals and achieving high performance (Schaufeli et al., 2002). It is also important to keep in mind that college is a context of human interaction. Students meet others and establish bonds of friendship, assistance, or exchange of information, inside and outside the classrooms. Peer and faculty support represents an interpersonal dimension that accounts for social and instrumental resources that assist in practical problems and turn out protective against the stressors of higher education (Fernández-Martínez et al., 2017).

The objective of this work was to inquire how internal characteristics of students (psychological and academic) interplay with external elements in their support systems to promote adaptation in a higher education environment. We explored associations among resilience, academic engagement, and social support as determining elements in the adjustment to the demands of the university context (Fernández-Martínez et al., 2017). We adopt an approach based on cluster analysis to identify patterns of association among these elements. Such an approach has been successfully

used in the analysis of resilience in previous studies (González & Artuch, 2014; Schaufeli et al., 2002). The cluster-based analysis allows for a comprehensive characterization of the strategies by which the students engage in their academic lives.

2. Methods

2.1. Participants

The sample consisted of 371 first-year undergraduate students (220 females), ages 17 to 24, mainly from low economic status (76 %), enrolled public universities in the Caribbean region of Colombia. The participants were registered in Psychology, Engineering and Business schools. The evaluations were conducted directly at the campuses between January and March 2020.

2.2. Instruments

Resilience. SV-RES Scale (Saavedra & Villalta, 2008), the instrument evaluates 12 dimensions of resilience (60 items) related to the ways that individuals interact with themselves, with others, and identify possibilities in the environment around them. Theoretically, resilience is characterized by three fundamental aspects: “I am”, integrates the dimensions of identity, autonomy, satisfaction and pragmatism, all concepts related to personal strengths that defines and characterizes oneself throughout his/her personal history. The second aspect, “I have” is associated to connections, networks, models, and goals, associated to the support that the person receives from his/her social environment. The third aspect “I can”, integrates dimensions of affectivity, self-efficacy, learning and generativity, as the abilities that the individual possesses to solve problematic situations.

Academic Engagement. The Student Academic Engagement Scale (UWES-S) (Schaufeli et al., 2002). The instrument evaluates three characteristics of academic engagement (17 items): vigor (6 items), as the student's self-perception of energy levels during the academic semester; dedication (5 items) as the self-perceived levels of enthusiasm, pride, and motivation to assume challenges; and absorption (6 items) as the degree of satisfaction with satisfaction with career-specific studies.

Social Support. Social support networks were evaluated using a square matrix of reticular data, thought the Arizona Social Support Interview

Schedule (ASSIS) (Barrera, 1980). Different characteristics of the relationships with peers and faculty were identified: time, places of socialization, issues they deal with, and frequency of communication. The structural properties of the networks were calculated in terms of degrees, as the number of social ties sustained within the network; closeness as the measure of distance from one actor to the other actors in a network; and centrality, where the position and role of each subject in the social network can be identified (Ramos-Vidal & Ricaurte, 2015).

2.3. Data analysis

Cluster analysis, by the agglomerative hierarchical method, allowed to classify subjects into different groups, or styles, according to their similarities in the 12 dimensions of resilience (Yim & Ramdeen, 2015). Analyses of variance (ANOVA), and multiple comparisons (homoscedasticity tests, and post-hoc comparisons) allowed to identify how each resilient style was associated with engagement and social support. Two statistical software's were used: SPSS 26© for descriptive, classificatory, and comparative analyses of the resilience and engagement variables, while the UCINET software (Borgatti et al., 2004). allowed the calculation of the structural indicators of the social support networks (centrality and power).

2.4. Ethical considerations

The research team followed the ethical principles for research in health involving human subjects, recommended by the World Medical Association, in the Declaration of Helsinki, revised in Taipei in 2016.

3. Results

3.1. Resilience in University Students

Cluster analyses showed four groups, each one with a specific configuration in resilience dimensions. The first group (A) was the largest, it gathered 225 participants (70 % female), the second (B), third (C) and fourth (D) groups were smaller, with 40, 46, and 60 participants respectively (70 % male participants). Figure 1 shows the characteristics of resilience for each group in perspective with the others. Multiple comparisons (post-hoc tests, by Scheffe) showed significant differences in resilience among the groups: A) obtained negative scores in all indicators of resilience ($p<.05$), and so it was called "Low-resilience". B) obtained intermediate scores in all resilience dimensions, so it was called "Resilience-in-progress". C) obtained scores

that were significantly higher than the other clusters on the dimensions related to individual strengths ($p<.05$), such as: identity, self-efficacy, learning and satisfaction, and was therefore called "self-reliant resilience". D) showed significantly highest scores in dimensions of resilience referred to social support such as connections, networks, models, and affectivity, (post-hoc tests $p<.05$).

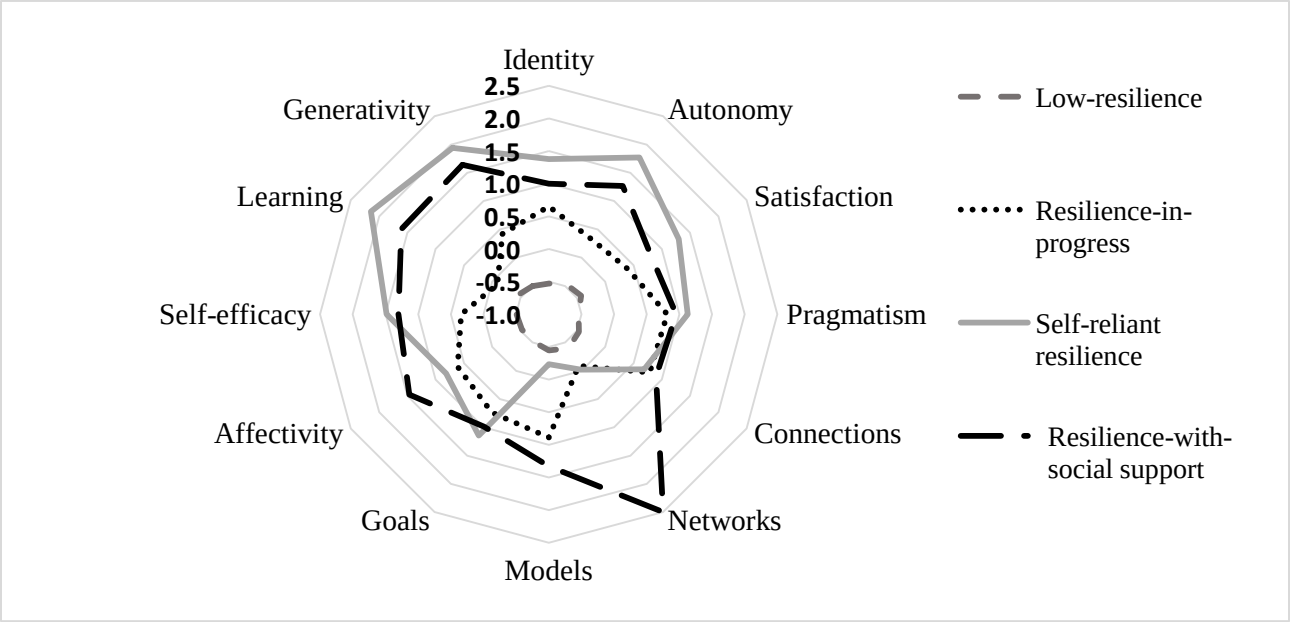

Figure 1: Resilience profiles of Colombian university students

3.2. Resilience styles associated to academic engagement and social support

The resilience configuration of each group was found connected to certain characteristics of academic engagement, and personal support networks. Table 1 presents details of mean, standard deviation (SD), Fisher's statistic (F) and Pearson significance (*) for the associations among variables.

As the Table shows it was found that students with Low-resilience and Resilience-with-social-support presented the highest scores in vigor and dedication (academic engagement), while the Resilient-in-progress obtained the lowest scores.

It should be noted that the resilience styles did not differ in the dimensions of Absorption from academic engagement ($F=0.89$), nor in the dimension of

intermediation, and density from the social support evaluation (F=1.14; F=1.30).

Table 1. Differences in engagement and configuration of social networks between resilient styles

	Low-resilience	Resilience-in-progress	Self-reliant resilience	Resilience-with-social support	F
Engagement					
Vigor	24.51 (4.58)	21.82 (5.33)	22.87 (4.34)	24.90 (5.57)	4.48**
Dedication	26.11 (2.58)	23.14 (4.12)	24.20 (3.78)	26.89 (3.66)	16.57***
Social Support					
Degree	2.64 (1.01)	2.79 (1.04)	1.80 (0.81)	2.65 (1.08)	5.14**
Centralization	1.93 (1.05)	2.32 (1.03)	1.87 (0.70)	2.53 (1.01)	4.05**
Closeness	2.28 (0.97)	1.82 (0.89)	2.15 (0.99)	2.17 (0.96)	3.70*

4. Discussion

Adjustment of first-year students to university environments, as well as their academic success, are often more related to personal strengths that allow them to cope with the new demanding school conditions rather than to exclusively academic aspects. Taking under consideration the wide variety of personal, academic, and social resources involved in the adaptation of students to higher education institutions, the aim of this study was to investigate how student´s resilience, academic engagement, and social support networks were associated, forming coping patterns to face academic stressors. The participants consisted of 371 first-year undergraduate students, enrolled in Statal Universities in the Caribbean region of Colombia. Using the statistical tool of cluster analysis, through the agglomerative hierarchical method, students were classified according to their similarities in resilience and subsequently compared in terms of their characteristics of academic engagement and the structure of their social support networks.

The analysis showed the existence of four distinctive styles of resilience-engagement-social support. The first style was the most common as it

included 60 % of the participant (mostly women) with low scores in resilience, high academic engagement, and strong social support networks. Low scores on resilience suggested that these students were insecure about their own personal capabilities to cope with stressors. However, their high motivation towards their career studies, and close-knit social networks provided the necessary support to overcome academic difficulties.

The second style (shared by 11 % of participants) was characterized by slightly higher resilience scores (resilient-in-progress), low engagement, and a broad social network with little proximity among its members. According to Gifre et al., (2010), higher than average scores on resilience point out individuals that are oriented towards the acceptance of their strengths and limitations, and open to the situations that life presents. Low scores on academic engagement are indicators of little interest or dissatisfaction with their career choice, or even with higher education in general. It is understandable that their social networks are wide as these individuals are open to interactions with other but their lack of interest in the academic life prevents them from building meaningful relationships in campus.

The third style was shared by 13 % participants, which presented a high resilience profile, especially in dimensions related to sense of identity, autonomy, self-efficacy, and learning (Self-reliant resilience); non-significant academic engagement scores, and poorly constituted social support networks. The results indicate that these students were confident on their personal strengths and prioritize their individual resources for overcoming academic obstacles rather than relying on social resources.

The fourth style was shared by 17 % of participants. These students obtained the highest scores in resilience indicators related to interpersonal abilities and personal orientation towards working cooperatively with others (resilience-with-social support). This group was also characterized by exhibiting the highest academic engagement, as well as strong social support networks. This profile was aligned with previous postulates that link engagement, resilience, and social support as fundamental conditions for adjustment in college (Fernández-Martínez et al., 2017).

It is important to note that a clear sex difference was found between the first low-resilience profile (70 % women), and the three resilient profiles (groups 2-4) composed mainly by men. Our findings are in line with previous research in Latin America that has identified that in adolescence and youth women report lower levels of resilience than men (Taylor et al., 2014). It

could be questioned whether these results point to specific cultural aspects, being a particular sample from the Caribbean, where traditional gender identities are maintained, and such identities entail men perceiving themselves as strong, and women perceiving themselves as less resilient and therefore resorting to social support.

9. Conclusions

The present findings indicate that characteristics of resilience, academic engagement, and social support of peers, constitute elements that determine adaptation of first-year students to university life. Higher education institutions need to provide an interdisciplinary approach to education, not just based on academic instruction, but they need to pay adequate attention to individual and social aspects that help students handle stressors.

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